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“जानने का अधिकार, जीने का अधिकार”

Mazdoor Kisan Shakti Sangathan

“The Right to Information, The Right to Live”

“पुराने को छोड़ नये के तरफ”

Jawaharlal Nehru

“Step Out From the Old to the New”

IS 5927 (1981): Reduction Sleeves 7/24 Tapers to Morse
Tapers [PGD 32: Cutting tools]

“ज्ञान से एक नये भारत का निर्माण”

Satyanaaranay Gangaram Pitroda

“Invent a New India Using Knowledge”



“ज्ञान एक ऐसा खजाना है जो कभी चुराया नहीं जा सकता है”

Bhartṛhari—Nītiśatakam

“Knowledge is such a treasure which cannot be stolen”



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Indian Standard

SPECIFICATION FOR REDUCTION SLEEVES 7/24 TAPERS TO MORSE TAPERS

(First Revision)

1. Scope — Covers the dimensions and requirements for reduction sleeves with external 7/24 tapers for tools with morse taper shanks.

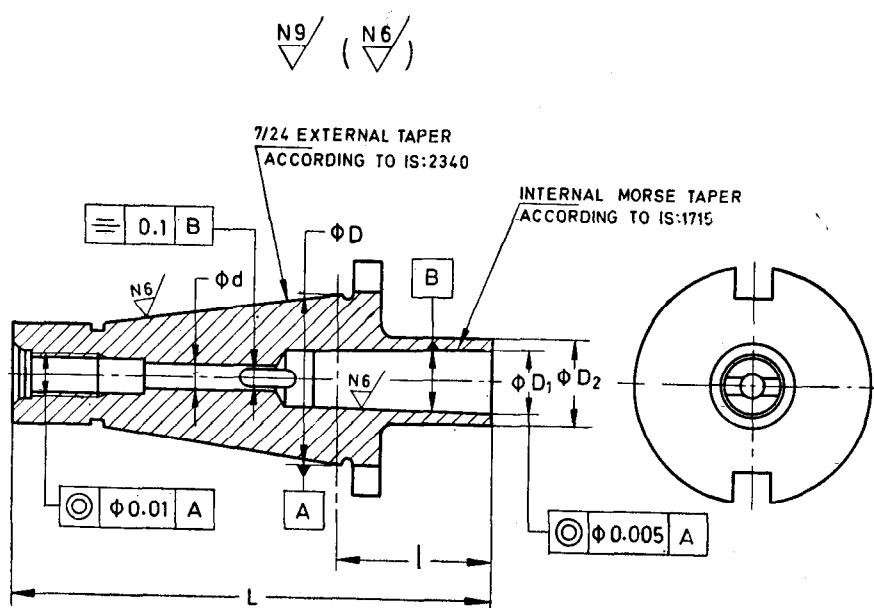
2. Types — Shall be of two types:

Type A — Reduction sleeves with 7/24 tapers to morse taper shank with tang end.

Type B — Reduction sleeves with 7/24 tapers to morse taper shank with tapped end.

3. Dimensions

3.1 For Type A

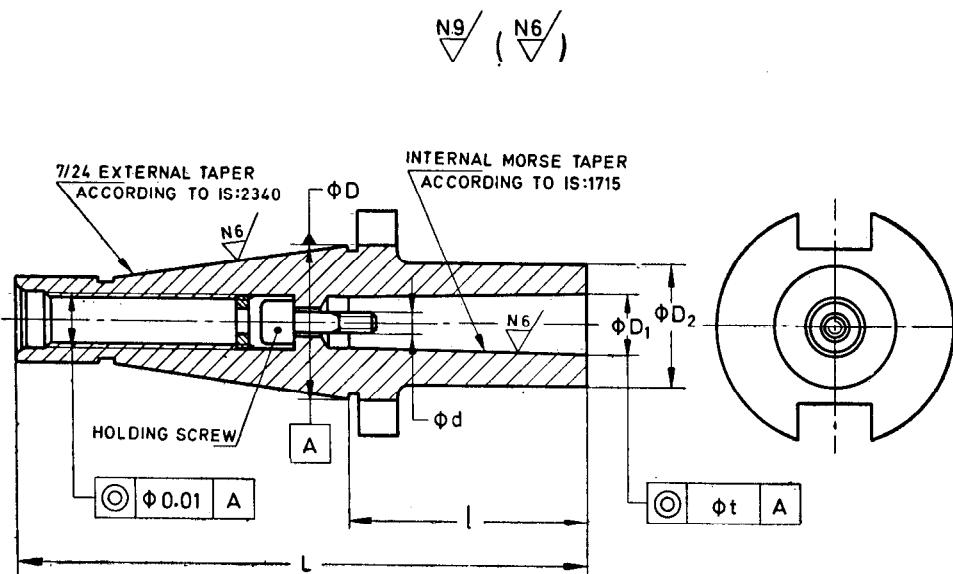


All dimensions in millimetres.

| Designating Size | 7/24 Taper External | Morse Taper Internal | D | D ₁ | D ₂ | d | I Max | L Max |
|------------------|---------------------|----------------------|---------|----------------|----------------|------|-------|-------|
| 30 × 1 | | 1 | | 12.065 | 25 | 6.2 | 50 | 118 |
| 30 × 2 | 30 | 2 | 31.750 | 17.780 | 32 | 10.3 | 50 | 118 |
| 30 × 3 | | 3 | | 23.825 | 40 | 12.5 | 70 | 138 |
| 40 × 1 | | 1 | | 12.065 | 25 | 6.2 | 50 | 143 |
| 40 × 2 | | 2 | | 17.780 | 32 | 10.3 | 50 | 143 |
| 40 × 3 | 40 | 3 | 44.450 | 23.825 | 40 | 12.5 | 65 | 158 |
| 40 × 4 | | 4 | | 31.267 | 48 | 17.0 | 95 | 188 |
| 45 × 1 | | 1 | | 12.065 | 25 | 6.2 | 50 | 157 |
| 45 × 2 | | 2 | | 17.780 | 32 | 10.3 | 50 | 157 |
| 45 × 3 | 45 | 3 | 57.150 | 23.825 | 40 | 12.5 | 65 | 172 |
| 45 × 4 | | 4 | | 31.267 | 48 | 17.0 | 75 | 182 |
| 45 × 5 | | 5 | | 44.399 | 63 | 21.0 | 125 | 232 |
| 50 × 2 | | 2 | | 17.780 | 32 | 10.3 | 60 | 187 |
| 50 × 3 | | 3 | | 23.825 | 40 | 12.5 | 65 | 192 |
| 50 × 4 | 50 | 4 | 69.850 | 31.267 | 48 | 17.0 | 70 | 197 |
| 50 × 5 | | 5 | | 44.399 | 63 | 21.0 | 105 | 232 |
| 60 × 3 | | 3 | | 23.825 | 40 | 12.5 | 70 | 277 |
| 60 × 4 | 60 | 4 | 107.950 | 31.267 | 48 | 17.0 | 70 | 277 |
| 60 × 5 | | 5 | | 44.399 | 63 | 21.0 | 70 | 277 |
| 60 × 6 | | 6 | | 63.348 | 80 | 25.0 | 100 | 307 |

Note — The figure is indicative of dimensions only and does not specify design features.

3.2 For Type B



All dimensions in millimetres.

| Designating Size | 7/24 Taper External | Morse Taper Internal | D | D ₁ | D ₂ | d | L Max | I Max | t |
|------------------|---------------------|----------------------|---------|----------------|----------------|-----|-------|-------|-------|
| 30 × 1 | 30 | 1 | 31.750 | 12.065 | 25 | M6 | 118 | 50 | 0.012 |
| 30 × 2 | | 2 | | 17.780 | 32 | M10 | 118 | 50 | 0.012 |
| 40 × 1 | 40 | 1 | 44.450 | 12.065 | 25 | M6 | 143 | 50 | 0.016 |
| 40 × 2 | | 2 | | 17.780 | 32 | M10 | 143 | 50 | 0.016 |
| 40 × 3 | 40 | 3 | | 23.825 | 40 | M12 | 158 | 65 | 0.016 |
| 40 × 4 | | 4 | | 31.267 | 48 | M16 | 188 | 95 | 0.016 |
| 45 × 2 | 45 | 2 | 57.150 | 17.780 | 32 | M10 | 157 | 50 | 0.016 |
| 45 × 3 | | 3 | | 23.825 | 40 | M12 | 157 | 50 | 0.016 |
| 45 × 4 | 45 | 4 | | 31.267 | 48 | M16 | 182 | 75 | 0.016 |
| 50 × 2 | | 2 | 69.850 | 17.780 | 32 | M10 | 187 | 60 | 0.020 |
| 50 × 3 | 50 | 3 | | 23.825 | 40 | M12 | 192 | 65 | 0.020 |
| 50 × 4 | | 4 | | 31.267 | 48 | M16 | 212 | 85 | 0.020 |
| 50 × 5 | 50 | 5 | | 44.399 | 63 | M20 | 247 | 120 | 0.020 |
| 60 × 5 | | 5 | 107.950 | 44.399 | 63 | M20 | 292 | 85 | 0.020 |
| 60 × 6 | 60 | 6 | | 63.348 | 80 | M24 | 327 | 120 | 0.020 |

Note — The figure is indicative of dimensions only and does not specify design features.

4. Material — Carbon steel having tensile strength not less than 600 MPa* in the core after case-hardening.

5. Hardness — The hardness of tapered portions shall be 590 HV to 670 HV after case hardening.

5.1 The threaded portions shall be left unhardened.

6. General Requirements

6.1 The dimensions of 7/24 tapers shall be according to IS : 2340-1972 'Dimensions for self-release 7/24 tapers for milling arbors and tool shanks (first revision)'.

*1 MPa = 0.1 kgf/mm² (approx.).

6.2 The dimensions of morse tapers shall be according to IS : 1715-1973 'Dimensions for self-holding tapers (first revision)'.

6.3 The permissible deviations on dimensions with unspecified tolerances shall be of grade 'Medium' according to IS : 2102-1969 'Allowable deviations for dimensions without specified tolerances (first revision)'.

6.4 The reduction sleeves of Type B shall be supplied with a suitable wrench in order to facilitate the clamping of the tools.

6.5 The sleeves shall be manufactured in one piece and shall be free from cracks, burrs and other manufacturing defects.

7. Designation — A reduction sleeve of Type A having designating size as 45×4 and conforming to this standard, shall be designated as:

Reduction Sleeve A 45×4 IS : 5927

8. Marking — Shall be marked with the type, designating size as per 3.1 and 3.2 and manufacturer's name or trade-mark.

8.1 ISI Certification Marking — Details available with the Indian Standards Institution.

9. Preservative Coating and Packing

9.1 Each reduction sleeve shall be covered with a suitable rust-proofing material and wrapped in moisture proof paper.

9.2 Each reduction sleeve shall be packed in a carton bearing the type, designating size and manufacturer's name or trade-mark.

EXPLANATORY NOTE

This standard was first published in 1970. This revision has been necessitated to bring it in line with the work done at ISO level. In this revision, dimensions for reduction sleeves having 7/24 taper No. 30, 45 and 60 have also been included.

In the preparation of this standard considerable assistance has been derived from ISO 4202-1978 'Reduction sleeves with external 7/24 taper for tool with morse taper shank' and ISO 5415-1977 'Reduction sleeves with 7/24 external and morse internal taper and incorporated screw', issued by the International Organization for Standardization.